

Granite State Electric

A National Grid Company



SEP 06 2002

William T. Sherry
Executive Vice President

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MaryAnn Manoogian, Director
State of New Hampshire
Governor's Office of Energy and
Community Services
57 Regional Drive, Suite 3
Concord, NH 03301-8519

Dear Mary Ann,

Granite State Electric Company (GSECo) appreciates the opportunity to comment on the development of the New Hampshire State Energy Plan (NHEP). House Bill 443, which set the development of the NHEP in motion, spoke of the need for comprehensive and integrated planning. The legislation also required the plan to address: the supply and demand for energy resources; transmission and distribution infrastructure; ensuring a diversity of energy resources; environmental safeguards; energy efficiency and conservation measures. To date, much work has been done in developing information and gathering data to build the baseline model for going forward.

We wish to commend the efforts of the Governor's Office of Energy and Community Services (GOECS) for taking the time and making the effort to gather information from all stakeholders in this project. Energy planning is a dynamic, complex process often impacted by economic, political and climatic conditions far beyond the borders of New Hampshire. We would hope the development of the NHEP will take into account the opinions of various stakeholders while allowing for the creation of a more permanent process to oversee energy planning in the state going forward.

The New England energy market is regional in nature, and regional planning is needed to assure the existence of a reliable and stable infrastructure to support that market. We hope the NHEP takes this into account and encourages New Hampshire to take even more of a leadership role in the development of successful regional energy planning. There are a number of organizations, such as the Independent System Operator-New England, Inc. (ISO-NE) and New England Power Pool (NEPOOL), which are formally charged with regional energy planning. We encourage the NHEP to take this into account and integrate these types of organizations into the process.

It is also important to recognize the need for flexibility and adaptability in the energy planning arena. As we have seen since the introduction of deregulation in the telecom, gas and electric industries, for example, conditions often change quickly in markets. Models must be flexible and provide for adjustments based on actual experience over time.

We look forward to the presentation of the NHEP and the opportunity to provide additional comments on any final draft documents.

9 Lowell Road
Salem, NH 03079-2902
603.890.7120 Fax: 603.890.7132
william.sherry@us.ngrid.com

Demand Projections for Electricity Consumption

Energy2020 is described as an integrated energy planning model that simulates economic activity, the demand for energy by end-use, fuel diversity, production costs and pollution dynamics. The NHEP uses the Energy2020 model to produce long-range forecasts of electricity, gas and other energy demand projections for New Hampshire as well as to consider the impact of alternative policies on the supply and demand for energy resources, fuel diversity and emissions, and required transmission and distribution infrastructure. Model inputs include state economic data from the New Hampshire Department of Employment Security; and state energy, DSM, generation, transmission, distribution and pollution data from DOE/EIA, NEPOOL, the New Hampshire Public Utilities Commission (NHPUC) and the State's utilities.

The Energy2020 long-range electricity demand projections present a different approach than the long-range demand projections provided by ISO-NE. The ISO-NE forecast is developed for NEPOOL as a whole, including the State of New Hampshire, and is also broken down into sub areas for the purpose of transmission planning. The ISO-NE/NEPOOL projections have proved very reliable over the years for capacity and transmission planning, and differences between the ISO-NE demand projections and the Energy2020 projections should be explained and understood, especially given the importance of the electric demand projections in the NHEP and the great uncertainty that lies in all long-range energy demand projections.

GSECo feels that the many, integrated capabilities of the Energy2020 model, beyond long-range energy demand projections, may be of significant interest, particularly the ability of the model to simulate the impact of alternative state energy policies, such as the state's new DSM initiatives. However, the Company also believes that due to the great deal of uncertainty that accompanies any long-term forecasts, any State energy plan should be sufficiently flexible to successfully accommodate actual conditions or developments that may differ substantially from the forecasts.

It should be noted that the Energy2020 demand projections are not an alternative to long-range demand projections developed by GSECo for planning the reliability of GSECo's distribution system since our projections are service area specific. GSECo develops long-range forecasts of coincident and non-coincident peak demand for the purposes of distribution planning. In order to do this, GSECo divides its service area into two power supply areas (PSAs) and creates an annual forecast of each PSA's monthly coincident and non-coincident peak demand. The forecasts are based on econometric models relating monthly peak demands to weather data and county-level measures of economic activity. For each PSA, two forecasts are developed, one that assumes normal weather (50% probability of occurring) and a one that assumes extreme weather (5% probability). The forecasts are used for electric facility planning studies and for annual feeder loading reviews. Unfortunately, due to the various methodologies applied to long-range load forecasting by local utilities and the complexity of this task, there is no way to easily compare the high level Energy2020 forecast results with utility forecasts.

Adequacy of Distribution Resources and Siting Requirements

Distribution resource planning at GSECo involves several aspects. As previously described, a ten-year peak demand growth forecast is developed annually on a geographical or PSA basis. This forecast is developed using key historical load data, key weather factors and key economic forecast trends. The data is incorporated into a statistical multi-dimensional model to deliver a ten-year prediction of winter and summer peak demands under normal and extreme weather conditions. Distribution feeders and supply facilities are assessed relative to expected peak demand loads and system capability. An annual report is produced to identify improvements needed to adequately serve customers load under extreme weather conditions. Projects are designed, engineered and implemented to correct any needs identified.

In addition, an annual review of reliability performance (outage duration and frequency) is conducted for supply and distribution facilities to identify areas of substandard performance and address problems. Area studies are conducted for each of our two PSAs (Eastern Granite State and Western Granite State) to identify supply reinforcements necessary to maintain reliable service during the study period, which generally covers ten years. These area studies also can identify needed upgrades or additions to the transmission system.

GSECo presently undertakes an annual review of the adequacy of its electric delivery system on a circuit basis. Distribution circuits are analyzed with respect to loading compared to capability, reliability, and voltage regulation, and reactive requirements. Substation equipment is inspected at regular intervals. Maintenance of substation equipment is prioritized based upon a variety of parameters including equipment type, age, dielectric fluid composition, and operating history. Thermovision is utilized to identify latent substation equipment defects that could lead to equipment failure. Distribution circuits are inspected on a periodic basis. Equipment loading, performance, and operating and maintenance requirements are taken into account as part of area studies that are prepared to evaluate delivery system reinforcement requirements.

GSECo, through its affiliated service company, National Grid USA Service Company, has embarked on the development of a comprehensive Asset Management Program which reflects the following overall objectives:

- Establishment of the performance, operating, and business objectives of an Asset Management Program for our distribution and transmission assets.
- Review of the existing delivery system planning, engineering, and business processes along with the supporting information systems relevant to current and future requirements.

- Recommendation of a comprehensive asset management process that will balance and optimize the delivery system in terms of a system reliability, customer cost and shareholder value.

GSECo undertakes annual facility reviews and area studies, as described in the preceding section, to determine the need and timing of upgrades to our delivery system. Notification to the NHPUC is required for capital projects of \$50,000 or greater. Municipal and regulatory agency approvals prior to construction can include the local conservation commission, planning board, zoning board, and in some instances the NHPUC. GSECo typically works with abutters to the project to identify and work together to resolve issues of concern.

Adequacy of Transmission Resources and Siting Requirements

Each year the National Grid companies (on behalf of GSECo, New England Power Company, New England Electric Transmission Corporation, and New England Hydro-Transmission Corporation) submit to the New Hampshire Public Utilities Commission a "bulk power facility plan."¹ Pursuant to the NHPUC's rules (N.H. Admin. Code §309.01), such plans contain a number of forms concerning long term planning related to bulk power, including most notably Form C, which provides detailed long range plans for bulk power supply of transmission lines of 100 kV or more, and Form E, which is an application for a certificate to site such transmission lines. This bulk power report is the primary means by which individual transmission owners annually communicate their individual transmission plans to the regulators in New Hampshire.

Nevertheless, in order to get a true understanding of transmission planning, the appropriate focus is regional rather than the more limited review of what is planned within individual corporate boundaries, service territories, or even within a single state. Transmission planning currently is conducted on a regional basis by ISO-NE in close coordination with transmission owners, NEPOOL and its relevant committees. This process covers planning for transmission facilities that are needed either for reliability reasons or for economic reasons. The reason for this regional focus is that New England is highly integrated from a transmission perspective. Reliability in any one part of the transmission grid depends on the other parts, and performance of the transmission grid is integrally related to the proper functioning of regional energy markets.

The regional transmission planning process is detailed in NEPOOL's open access transmission tariff (OATT) and the restated NEPOOL agreement (RNA). Pursuant to Section 51 of the OATT, ISO-NE, with input from two NEPOOL committees, the Transmission Expansion Advisory Committee and the Transmission Planning Committee, develops a regional transmission expansion plan (RTEP). The RTEP is

¹ See e.g., "National Grid's Annual Report on Long range Plans for Bulk Power Facilities" (filed with NHPUC June 14, 2002).

produced every three years based on plans of individual transmission owners, load forecasts, generators' proposed capacity forecasts, and input from state commissions and regional reliability councils.²

In addition to the RTEP, individual transmission expansion projects are subject to peer review by NEPOOL's Reliability Committee, task forces of the Reliability Committee, and ultimately its Participants Committee. Pursuant to RNA § 18.4, any new or materially changed plans for additions to, retirements of, or changes in the capacity of any transmission facilities rated 69 kV or more – as well as any other actions that can significantly affect stability, reliability or operating characteristics – must be submitted to ISO-NE and relevant NEPOOL committees for review at least 60 days before the start of any such projects. In effect, such projects are to be approved by the relevant NEPOOL committees and ISO-NE to ensure that there are no significantly adverse effects upon the reliability or operating characteristics of the system or systems of individual transmission owners. Pursuant to RNA § 15.5, moreover, the NEPOOL committees assess whether such projects should be considered "pool transmission facilities" managed by NEPOOL and ISO-NE under the OATT and whether or not the costs of such facilities should be rolled into the rates for regional network service under the OATT.

FERC's recent policy initiatives related to regional transmission organizations and standard market design could affect the details of the planning process, but by and large neither initiative will narrow the current regional scope of transmission planning. To the contrary, these policies will likely reinforce the regional focus. On August 23, 2002, ISO-NE and NYISO filed a petition for a declaratory order concerning the creation of the Northeast RTO (NERTO). As proposed in that filing, the NERTO would conduct planning much like ISO-NE currently does now, but the scope of the NERTO planning process would include New York as well as the New England states. The NERTO proposal is subject to public comment at the FERC, and it is not clear how the FERC will rule on the proposal. Moreover, while the National Grid Companies likely will provide substantial comment on the details of the planning process proposed in FERC's Notice of Proposed Rulemaking on Standard Market Design,³ it should be noted that FERC's proposal is for the planning process to cover areas much larger than the footprints of existing RTOs; essentially, FERC proposes dividing the country into 4 super-regions for planning purposes.

In short, while individual transmission owners should continue to have a vital role in planning, constructing and owning transmission facilities, ISO-NE also has a significant role in coordinating the planning for new transmission facilities, and it – or any successor

² See RNA §20(i) specifically obligating NEPOOL and ISO-NE to consult and coordinate with applicable state regulatory, siting and other authorities on planning.

³ "Remedying Undue Discrimination through Open Access Transmission Service and Standard Electricity Market Design," Notice of Proposed Rulemaking, FERC Docket No. 01-12-000 at ¶¶ 335-50 (July 31, 2002).

regional transmission organization or independent transmission provider authorized by FERC – likely will have a significant role in the future.

In contrast with the regional nature of the transmission planning process, the siting of transmission facilities and other bulk power facilities is almost exclusively local or state specific. As a greater need for regionally-planned bulk power facilities emerges, there is a greater need for coordination between planners and the states that are expected to host these facilities.

Adequacy of Generation Resources and Siting Requirements

Prior to restructuring, GSECo acquired virtually all of its power needs from its generation and transmission affiliate, New England Power Company (NEP), pursuant to a long-term all-requirements power contract. As a result of restructuring, the contractual relationship between GSECo and NEP was amended such that GSECo was no longer obligated to purchase power from NEP, and NEP was relieved from having to provide all-requirements service to GSECo. Effective 1998, NEP divested ownership of essentially all of its non-nuclear generating assets and is working actively to divest its remaining interest in the Seabrook nuclear generation facility. As a result of the restructuring, generation supply planning and development of generating assets required to serve the region's power needs is now provided by the competitive marketplace.⁴ The National Grid companies believe that the generation planning process, like the transmission planning process, is clearly a regional issue as these resources are dispatched on a regional and not a service territory or state basis. Regional planning for generation capacity is currently a joint effort of NEPOOL and ISO-NE. Based on NEPOOL's forecast of generation capacity in New England⁵, the region is expected to have an adequate generation supply over the next ten years. The State of New Hampshire's active participation in the regional planning process with NEPOOL and ISO-NE will be helpful in ensuring the future generation supply is adequate to meet the region's energy needs.

As is true for transmission resources, siting of generation facilities is a state and local matter that will require coordination between planners and the states that are expected to host such facilities.

Energy Efficiency and Conservation Initiatives

⁴ See, e.g., RSA 374 -F:3, III ("Generation services should be subject to market competition and minimal economic regulation and at least functionally separated from transmission and distribution services which should remain regulated for the foreseeable future").

⁵ See "NEPOOL Forecast Report of Capacity, Energy, Loads and Transmission 2002-2011" (April 1, 2002).

For over 15 years, GSECo has offered a comprehensive portfolio of energy efficiency programs and services to its residential and business customers. Over this period, we have constantly refined and fine tuned our offerings to reflect changing business needs and changing technologies, but our goal has always been the same: to offer New Hampshire consumers the best energy efficiency services in the nation.

The impact has been significant. Since 1987, we have invested over \$25 million in energy efficiency improvements at facilities owned by our customers. Over 50% of our 39,000 customers have been served by at least one of our programs, and these consumers are now saving over \$5.5 million annually off their electric bills – money that is now freed up for investment in growth and jobs in the New Hampshire economy.

While the open market for energy efficiency services is growing, it remains an infant industry, and many customers – particularly small business, non-profit, and residential customers – cannot access efficiency offerings outside of utility-operated programs. That is because many barriers still exist in the market, including:

- Lack of discretionary funds to invest in energy efficiency;
- Lack of information about energy efficiency opportunities and potential savings; and
- Lack of readily available efficiency products.

GSECo's programs use a variety of financial incentives, technical assistance services and educational strategies – as well as partnerships with the energy efficiency industry – to explicitly address and overcome these barriers so that customers in all market segments will have an equal opportunity to pursue efficiency opportunities that are cost effective for them.

These programs provide direct benefits to our customers and the state of New Hampshire. On average, Granite State Electric efficiency programs can reduce customer energy usage and electric bills by 10 to 20%. This means that 10 to 20% less electricity needs to be generated to serve these customers, so there is a significant reduction in environmental pollution as well. We estimate that our programs have reduced air emissions annually by roughly 42,000 tons of CO₂, 172 tons of SO₂ and 58 tons of NO_x.

For business customers, returns from energy efficiency investments go directly to the bottom line. In a number of instances, participation in our efficiency programs has led to documented increases in employment and productivity. Because efficient products tend to last longer and require less maintenance, many of our business participants have reported reduced repair and maintenance expenses as well.

For residential customers, energy efficiency programs provide increased comfort, health, and safety in the home, as well as lower electric bills. Extra money in our customers' pockets improves the quality of life for these citizens and also fuels the state's economic

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growth. GSECo looks forward to continuing to offer cost-effective and beneficial energy efficiency programs to all of its customers.

Again, we want to thank GOECS for this opportunity to provide these comments on the NHEP process and look forward to reviewing the finalized plan. We are available to discuss these comments, or any related issues at your convenience.

Sincerely,

A handwritten signature in cursive script, appearing to read "William T. Sherry".

William T. Sherry
Executive Vice President
Granite State Electric Company